



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/756,792	01/10/2001	Seiji Umemoto	Q62563	6553

7590 11/25/2002
SUGHRUE, MION, ZINN, MACPEAK, & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037

EXAMINER

AMARI, ALESSANDRO V

ART UNIT PAPER NUMBER

2872

DATE MAILED: 11/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/756,792

Applicant(s)

UMEMOTO ET AL.

Examiner

Alessandro V. Amari

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 9-20 and 24-29 is/are rejected.
- 7) ☒ Claim(s) 6-8, 21-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7, 9.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 19 is objected to because of the following informalities:

Regarding claim 19, line 3, the phrase "like an" renders the claims ambiguous because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Appropriate correction is required.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claim 1 stands provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2 and 5 of copending Application No. US 2001/0004275 in view of Yamamoto et al. U.S. Patent 5,341,231 and in view of Taira et al. U.S. Patent 5,712,694. Claims 2, 5 and 7 disclose an optical path changing polarizer comprising a polarizer, an adhesive layer on one side of the polarizer and a repetitive prismatic structure. The difference between claims of

Art Unit: 2872

the instant application and the published is that the published application teaches the combination but in separate claims 2, 5 and 7 and that the published application does not teach that the refractive indices of the adhesive layer and the surface layer of the polarizer are different by 0.1. Yamamoto et al. and Taira et al. teach combining the polarizer and an adhesive layer with a repetitive prismatic structure along with the refractive indices of the adhesive and surface layer of the polarizer. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the polarizer, adhesive layer and repetitive prismatic structure in order to improve light utilization efficiency.

This is a provisional obviousness-type double patenting rejection.

4. Claim 1 stands provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1, 2 and 5 of copending Application No. US 2002/0015314 in view of in view of Yamamoto et al. U.S. Patent 5,341,231 and in view of Taira et al. U.S. Patent 5,712,694. Claims 1, 2, and 5 disclose an optical path changing polarizer comprising a polarizer, an adhesive layer on one side of the polarizer and a repetitive prismatic structure. The difference between claims of the instant application and the published is that the published application teaches the combination but in separate claims 1, 2, and 5 and that the published application does not teach that the refractive indices of the adhesive layer and the surface layer of the polarizer are different by 0.1. Yamamoto et al. and Taira et al. teach combining the polarizer and an adhesive layer with a repetitive prismatic structure along with the respective refractive indices of the adhesive and surface layer of the

Art Unit: 2872

polarizer as claimed. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the polarizer, adhesive layer and repetitive prismatic structure in order to improve light utilization efficiency.

5. Claim 1 stands provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 2, 6 and 7 of copending Application No. US 2001/0007489 in view of Yamamoto et al. U.S. Patent 5,341,231 and in view of Taira et al. U.S. Patent 5,712,694. Claims 1, 2, 6 and 7 disclose an optical path changing polarizer comprising a polarizer, an adhesive layer on one side of the polarizer and a repetitive prismatic structure. The difference between claims of the instant application and the published is that the published application teaches the combination but in separate claims 1, 2, 6 and 7 and that the published application does not teach that the refractive indices of the adhesive layer and the surface layer of the polarizer are different by 0.1. Yamamoto et al. and Taira et al. teach combining the polarizer and an adhesive layer with a repetitive prismatic structure along with the respective refractive indices of the adhesive and surface layer of the polarizer as claimed. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the polarizer, adhesive layer and repetitive prismatic structure in order to improve light utilization efficiency.

This is a provisional obviousness-type double patenting rejection.

6. Claim 1 stands provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4 and 15 of copending Application No. US 2002/0039155 in view of Yamamoto et al. U.S. Patent

Art Unit: 2872

5,341,231 and in view of Taira et al. U.S. Patent 5,712,694. Claims 1, 4 and 15 disclose an optical path changing polarizer comprising a polarizer, an adhesive layer on one side of the polarizer and a repetitive prismatic structure. The difference between claims of the instant application and the published is that the published application teaches the combination but in separate claims 1, 4 and 15 and that the published application does not teach that the refractive indices of the adhesive layer and the surface layer of the polarizer are different by 0.1. Yamamoto et al. and Taira et al. teach combining the polarizer and an adhesive layer with a repetitive prismatic structure along with the respective refractive indices of the adhesive and surface layer of the polarizer as claimed. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the polarizer, adhesive layer and repetitive prismatic structure in order to improve light utilization efficiency.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-4 and 9-12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. U.S. Patent 5,341,231 in view of Taira et al. U.S. Patent 5,712,694.

Art Unit: 2872

In regard to claim 1, Yamamoto et al. teaches (see Figure 6) an optical path changing polarizer comprising: a polarizer (64b); a adhesive layer (67b) disposed on one side of said polarizer, said adhesive layer having a refractive index different by 0.1 or less from a refractive index of a surface layer of said one side of said polarizer as described in column 9, lines 6-10; and a repetitive structure (68) provided on the other side of said polarizer.

Regarding claim 9, Yamamoto et al. teaches (see Figure 6) that said prismatic structure is formed so as to be added to or integrated with a transparent protective layer (65b) of said polarizer.

Regarding claim 10, Yamamoto et al. teaches (see Figure 6) a reflection layer (68a) disposed closely on a surface on which said prismatic structure is formed.

Regarding claim 12, Yamamoto et al. teaches that said adhesive layer is of a light diffusion type as described in column 9, lines 6-9 and column 10, lines 29-31.

However, Yamamoto et al. does not teach repetitive prismatic structure provided on the other side of said polarizer, said repetitive prismatic structure including optical path changing slopes aligned in a substantially constant direction so as to be inclined at an inclination angle in a range of from 35 to 48 degrees with respect to a plane of said polarizer. Nor does Yamamoto et al. teach optical path changing slopes consist of one kind slopes aligned in a substantially constant direction, or include two or more kinds of slopes in which one kind of slopes aligned in a substantially constant direction serve as a reference while another kind of slopes aligned in another substantially constant direction are opposite to said one kind of slopes, and wherein said adhesive layer is

Art Unit: 2872

covered with a strip sheet nor that an inclination angle of each of said optical path changing slopes with respect to said polarizer plane is in a range of from 38 to 45 degrees nor wherein optical path changing slopes are formed into a structure of grooves each substantially shaped like an isosceles triangle or any other triangle in section.

Also, Yamamoto et al. does not teach that flat surfaces each of which is inclined at an inclination angle of not larger than 5 degrees with respect to said polarization plane has a projected area, on said polarizer plane, not smaller than 10 times as large as a projected area, on said polarizer plane, of slopes each of which is inclined at an inclination angle of not smaller than 35 degrees with respect to said polarizer plane.

Also, Yamamoto et al. does not teach that the optical path changing slopes have ridgelines parallel to or inclined within-an angle range of ± 30 degrees with respect to one side of said polarizer.

In regard to claim 1, Taira et al. does teach (see Figures 14 and 15) repetitive prismatic structure (1201) including optical path changing slopes aligned in a substantially constant direction so as to be inclined at an inclination angle in a range of from 35 to 48 degrees with respect to a plane of said polarizer as described in column 14, lines 49-59.

Regarding claim 2, Taira et al. teaches said optical path changing slopes consist of one kind slopes aligned in a substantially constant direction as shown in Figure 14.

Regarding claim 3, Taira et al. teaches that an inclination angle of each of said optical path changing slopes with respect to said polarizer plane is in a range of from 38 to 45 degrees as described in column 14, lines 49-59.

Art Unit: 2872

Regarding claim 4, Taira et al. teaches that said optical path changing slopes are formed into a structure of grooves each substantially shaped like an isosceles triangle or any other triangle in section as shown in Figures 14 and 15.

Regarding claim 11, Taira et al. teaches that said optical path changing slopes have ridgelines parallel to or inclined within-an angle range of ± 30 degrees with respect to one side of said polarizer as shown in Figure 14.

Regarding claim 2, it is noted that the combination fails to teach that the adhesive layer covered with a strip sheet. Official Notice is taken that it is notoriously old and well known in the adhesive art to use strip sheets. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize strip sheets in the combination in order to adhere the polarizer properly to a surface.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the polarizing device of Yamamoto et al. with the repetitive prismatic structure as taught by Taira et al. in order to improve light utilization efficiency.

9. Claims 13-19 and 24-29 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. U.S. Patent 5,341,231 in view of Taira et al. U.S. Patent 5,712,694.

In regard to claim 13, Yamamoto et al. teaches (see Figure 6) an optical path changing polarizer comprising: a polarizer (64b) including a polarizing element and a transparent protective layer (65b) disposed on at least one side of said polarizing element; an adhesive layer (67b) disposed on one side surface of said polarizer; and a

Art Unit: 2872

repetitive structure (68) disposed on the other side of said polarizer wherein each of respective refractive indexes of said adhesive layer and a material for forming said optical path changing slopes is not lower than a refractive index of said polarizing element or said transparent protective layer as described in column 9, lines 6-10.

Regarding claim 15, Yamamoto et al. teaches (see Figure 6) that said repetitive prismatic structure having said optical path changing slopes is formed on an outer surface of a film, the other surface of said film being bonded to said other side of said polarizer through a second adhesive layer (67c); and wherein a refractive index of said second adhesive layer is not lower than the refractive index of said polarizing element or transparent protective layer as described in column 9, lines 6-10.

Regarding claim 16, Yamamoto et al. teaches that at least said adhesive layer disposed on said one side of said polarizer is a tacky layer as described in column 10, lines 29-31. It should also be noted that inherently, an adhesive layer would have a tacky surface.

Regarding claim 25, Yamamoto et al. teaches that said repetitive prismatic structure having optical path changing slopes is formed so as to be integrated with said transparent protective layer (65b) of said polarizer as shown in Figure 6.

Regarding claim 26, Yamamoto et al. teaches (see Figure 6) that a light reflection layer (68a) is disposed closely on a surface on which said structure of irregularities having optical path changing slopes is formed as described in column 13, lines 1-2.

Regarding claim 28, Yamamoto et al. teaches that said adhesive layer is of a light diffusion type as described in column 9, lines 6-9 and column 10, lines 29-31.

Regarding claim 29, Yamamoto et al. teaches that said light diffusion type adhesive layer (67b) is provided on a surface of said polarizer as shown in Figure 6.

However, Yamamoto et al. does not teach repetitive prismatic structure including optical path changing slopes aligned in a substantially constant direction so as to be inclined at an inclination angle of from 35 to 48 degrees with respect to a plane of said polarizer nor that said optical path changing slopes consist of one kind of slopes aligned in a substantially constant direction, or include two or more kinds of slopes in which one kind of slopes aligned in a substantially constant direction serve as a reference while another kind of slopes aligned in another substantially constant direction are opposite to said one kind of slopes. Nor does Yamamoto et al. teach that the tacky layer on the polarizer is covered with a strip sheet. Yamamoto et al. does not teach that each of said optical path changing slopes is inclined at an inclination angle in a range of from 38 to 45 degrees with respect to a plane of said polarizer nor that each of said optical path changing slopes is based on a groove structure substantially shaped like an isosceles triangle or any other triangle in section. Yamamoto et al. does not teach that a projected area, on said polarizer plane, of any flat surface having an inclination angle of not larger than 5 degrees with-respect to said polarizer plane is not smaller than 10 times as large as a projected area, on said polarizer plane, of any slope having an inclination angle of not smaller than 35 degrees. Yamamoto et al. does not teach that said discontinuous grooves having optical path changing slopes are arranged at random nor that the ridgelines of said optical path changing slopes are parallel to or inclined within an angle range of ± 30 degrees with respect to one side of said polarizer.

Art Unit: 2872

In regard to claim 13, Taira et al. does teach (see Figures 14 and 15) a repetitive prismatic structure (1201) disposed on the other side of said polarizer, said repetitive prismatic structure including optical path changing slopes aligned in a substantially constant direction so as to be inclined at an inclination angle of from 35 to 48 degrees with respect to a plane of said polarizer as described in column 14, lines 49-59.

Regarding claim 14, Taira et al. teaches that said optical path changing slopes consist of one kind of slopes aligned in a substantially constant direction as shown in Figure 14 or include two or more kinds of slopes in which one kind of slopes aligned in a substantially constant direction serve as a reference while another kind of slopes aligned in another substantially constant direction are opposite to said one kind of slopes.

Regarding claim 18, Taira et al. teaches that each of said optical path changing slopes is inclined at an inclination angle in a range of from 38 to 45 degrees with respect to a plane of said polarizer as described in column 14, lines 49-59.

Regarding claim 19, Taira et al. teaches that each of said optical path changing slopes is based on a groove structure substantially shaped like an isosceles triangle or any other triangle in section as shown in Figures 14 and 15.

Regarding claim 24, Taira et al. teaches that said discontinuous grooves having optical path changing slopes are arranged at random as shown in Figure 14.

Regarding claim 27, Taira et al. teaches that ridgelines of said optical path changing slopes are parallel to or inclined within an angle range of ± 30 degrees with respect to one side of said polarizer as shown in Figure 14.

Regarding claim 17, it is noted that the combination fails to teach that the exposed surface of the tacky layer is covered with a strip sheet. Official Notice is taken that it is notoriously old and well known in the adhesive art to use strip sheets. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize strip sheets in the combination in order to adhere the polarizer properly to a surface.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the polarizing device of Yamamoto et al. with the repetitive prismatic structure as taught by Taira et al. in order to improve light utilization efficiency.

10. Claims 5 and 20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto et al. U.S. Patent 5,341,231 in view of Taira et al. U.S. Patent 5,712,694 and further in view of Hira et al. U.S. Patent 5,961,198.

Regarding claims 5 and 20, the combination teaches the invention as set forth above but does not teach optical path changing slopes are formed into a structure of grooves or protrusions each substantially shaped like a tetragon or a pentagon in section. Hira et al. does teach optical path changing slopes are formed into a structure of grooves or protrusions each substantially shaped like a tetragon or a pentagon in section as shown in Figures 20(a), 20(c) and 21(a)-21(c). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combination utilizing the shapes as taught by Hira et al. in order to increase luminance.

Allowable Subject Matter

11. Claims 6, 7, 8, 21, 22 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

16. Claims 6 and 21 are allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest “polarizer plane has a first projected area, on said polarizer plane, not smaller than 10 times as large as a second projected area” as set forth in the claimed combination.

Claims 7 and 22 are allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest “wherein each of said flat surfaces has a width of not smaller than 10 times as large as the width of each of said optical path changing slopes” as set forth in the claimed combination.

Claims 8 and 23 are allowable over the prior art for at least the reason that the prior art fails to teach or reasonably suggest “the length of each of said discontinuous grooves is not smaller than 5 times as large as the depth of each of said grooves” as set forth in the claimed combination.

The prior art for record, Yamamoto et al., Taira et al. and Hira et al. teach an optical path changing polarizer comprising a polarizer along with a transparent protective layer, an adhesive layer, and repetitive prismatic structures but does not teach the particular dimensional characteristics of the slopes or grooves and no motivation or teaching is present to modify this difference as derived.

Response to Arguments

12. Applicant's arguments filed 17 September 2002 have been fully considered but they are not persuasive.

In regard to the double-patenting rejection, for US2001/0004275, the applicant argues that claims 2 and 5 of the published application are directed to a "LCD device" including an LCD display whereas the instant application is directed to an "optical path changing polarizer."

In response to this argument, the examiner would point out that the published application while claiming an LCD device also comprises the structure of the optical path changing polarizer as claimed in the instant application and in combination with Yamamoto et al. and Taira et al.

In regard to the double-patenting rejection, for US2002/0015314, the applicant argues that claims 1, 2 and 5 of the published application are directed to a "light pipe" whereas the instant application is directed to an "optical path changing polarizer."

In response to this argument, the examiner would point out that the published application while claiming a light pipe also comprises the structure of the optical path changing polarizer as claimed in the instant application and in combination with Yamamoto et al. and Taira et al.

In regard to the double-patenting rejection, for US2002/0039155, the applicant argues that claims 1, 4 and 15 of the published application ~~of the published application~~ ^{ml} are directed to a "liquid crystal display device" having a liquid crystal display panel whereas the instant application is directed to an "optical path changing polarizer."

In response to this argument, the examiner would point out that the published application while claiming an liquid crystal display device also comprises the structure of the optical path changing polarizer as claimed in the instant application and in combination with Yamamoto et al. and Taira et al.

In regard to the double-patenting rejection, for US2002/0007489, the applicant argues that claims 1, 2, 6 and 7 of the published application of the published application are directed to a "a reflection-transmission double type liquid-crystal display device" whereas the instant application is directed to an "optical path changing polarizer."

In response to this argument, the examiner would point out that the published application while claiming a reflection-transmission double type liquid-crystal display device also comprises the structure of the optical path changing polarizer as claimed in the instant application and in combination with Yamamoto et al. and Taira et al.

In regard to the 103 rejection, the applicant argues Yamamoto et al. does not rely on light migrating down the length of the light guiding plate as in Taira et al.

In response to applicant's arguments, the examiner would like to point out that the applicant is arguing against the references individually. However, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In the instant application, the rejection states that Yamamoto lacks the repetitive prismatic structure including optical path changing slopes in a range of inclination angles from 35 to 48 degrees. Taira provides the repetitive prismatic structure including optical path

Art Unit: 2872

changing slopes in a range of inclination angles from 35 to 48 degrees as shown in Figures 14 and 15 and as described in column 14, lines 49-59. One would be motivated to combine the two references (utilize the prismatic structure of Taira et al. in the liquid crystal display device of Yamamoto et al.) in order to more fully utilize the light from the emitter (i.e., improve light utilization efficiency or brightness) as explained in column 15, lines 3-15 of Taira et al.

The applicant further asserts that Taira et al. teaches a structure that does not use a polarizer instead appearing to rely upon the polarization effect of the indented surface. Thus the applicant argues that there is no motivation to substitute the sculpted or indented light guiding plate of Taira et al. for the reflector of Yamamoto et al. and to use a polarizer and light guiding plate in combination.

In response to this argument, the examiner would like to point out that Taira et al. does indeed teach the use of a polarizer as described in column 5, lines 51-55, column 7, lines 34-44 and column 8, lines 17-27. Furthermore, column 8, lines 17-27 of Taira et al. states by using the repetitive prismatic structure (shown in Figures 14 and 15) with a polarizer will allow unutilized light to be used more efficiently and thus result in improved brightness.

The Applicant further argues that in regard to the 103 rejection for claims 5 and 20, the combination (Yamamoto in view of Taira in view of Hira) does not teach a polarizer and a repetitive prismatic structure provided on one side of a polarizer and furthermore, like Taira, Hira does not teach a polarizer.

In response to this argument, the examiner would refer the applicant to the responses presented above in regard to Yamamoto in view of Taira and would further point out that Hira does indeed teach a polarizer (31 in figure 30) and a repetitive prismatic structure (2) on one side of the polarizer as shown in figure 30.

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alessandro V. Amari whose telephone number is (703) 306-0533. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cassandra Spyrou can be reached on (703) 308-1687. The fax phone numbers for the organization where this application or proceeding is assigned are (703)

Art Unit: 2872

872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

ava *AM*
November 19, 2002


MARK A. ROBINSON
PRIMARY EXAMINER